

What is Claimed is

- [c1] 1.A method for introducing a new supplier into a product design and manufacturing system, comprising the steps of:
- initiating a new supplier introduction process;
 - receiving new supplier information relating to the new supplier;
 - receiving material information relating to a particular material to be supplied;
 - receiving product information relating to a particular product to be manufactured which will include the particular material;
 - progressing through a series of supplier introduction stages wherein the new supplier introduction is progressed from initiation through manufacture/implementation;
 - receiving information relative to each stage in the series of introduction stages;
 - holding a stage tollgate for each stage in the series of introduction stages;
 - determining, in each stage in the series of introduction stages, whether the new supplier introduction process should advance from a current stage to a next stage.
- [c2] 2.The method of claim 1, wherein the step of progressing through a series of supplier introduction stages further comprises the steps of:
- progressing through a first stage relating to identification and inception of a new supplier introduction program;
 - progressing through a second stage relating to a launch of the new supplier introduction program;
 - progressing through a third stage relating to material qualification for the material to be supplied by the new supplier;
 - progressing through a fourth stage relating to scale-up and customer sampling of products made using the material to be supplied by the new supplier;
 - progressing through a fifth stage relating to purchasing and implementation of the material; and
 - progressing through a sixth stage relating to monitoring the performance of the material supplied by the new supplier.
- [c3] 3.The method of claim 2, wherein the step of progressing through a first stage relating to identification and inception of the new supplier introduction program

further comprises the steps of:

determining whether a first stage tollgate should be passed indicating that the new supplier initiative has been approved for introduction;

permitting advancement to the second stage if it is determined that the first stage tollgate has been passed.

[c4]

4.The method of claim 2, wherein the step of progressing through a second stage relating to a launch of the new supplier introduction program further comprises the steps of:

determining whether a second stage tollgate should be passed indicating that the new supplier introduction has been approved for further development;
permitting advancement to the third stage if it is determined that the second stage tollgate has been passed.

[c5]

5.The method of claim 2, wherein the step of progressing through a third stage relating to material qualification program further comprises the steps of:

determining whether a third stage tollgate should be passed indicating that the material to be supplied by the new supplier has been qualified;
permitting advancement to the fourth stage if it is determined that the third stage tollgate has been passed.

[c6]

6.The method of claim 2, wherein the step of progressing through a fourth stage relating to scale-up and customer sampling further comprises the steps of:

determining whether a fourth stage tollgate should be passed indicating that scale-up samples have met customer approval;
permitting advancement to the fifth stage if it is determined that the fourth stage tollgate has been passed.

[c7]

7.The method of claim 2, wherein the step of progressing through a fifth stage relating to purchase and implementation of the new material further comprises the steps of:

determining whether a fifth stage tollgate should be passed indicating that any issues and concerns regarding production have been adequately addressed;
permitting advancement to the sixth stage if it is determined that the fifth stage

tollgate has been passed.

[c8] 8.The method of claim 2, wherein the step of progressing through a sixth stage relating to performance monitoring further comprises the steps of:
determining whether a sixth stage tollgate should be passed indicating that any issues have been resolved and the program should be closed;
closing the program if it is determined that the sixth stage tollgate has been passed.

[c9] 9.The method of claim 2, wherein the step of progressing through a first stage relating to identification and inception of a new supplier introduction program, further comprises the steps of:
initiating a global specification process;
analyzing environmental health and safety related risks;
assessing the effects of the new supplier on customers;
identifying required technical customer needs which relate to the new supplier;
and
conducting a new supplier risk assessment to explore the potential external and internal risks and benefits.

[c10] 10.The method of claim 2, wherein the step of progressing through a second stage relating to a launch of the new supplier introduction program, further comprises the steps of:
reviewing a questionnaire related to environmental health and safety for completeness and required follow-up activities;
evaluating the project for compliance with applicable food/medical/toy regulations;
developing a project timeline and resourcing plan; and
conducting a project risk assessment.

[c11] 11.The method of claim 2, wherein the step of progressing through a third stage relating to material qualification for the material to be supplied by the new supplier, further comprises the step of:
validating material test methods.

[c12] 12. The method of claim 2, wherein the step of progressing through a fourth stage relating to scale-up and customer sampling of products made using the material to be supplied by the new supplier, further comprises the step of: finalizing a global specification; and obtaining any required agency approvals.

[c13] 13. The method of claim 2, wherein the step of progressing through a fifth stage relating to purchasing and implementation of the material, further comprises the steps of:

- translating the material to additional sites or businesses;
- determining whether the new supplier has demonstrated manufacturing capability; and
- developing a control and audit plan.

[c14] 14. The method of claim 2, wherein the step of progressing through a sixth stage relating to monitoring the performance of the material supplied by the new supplier, further comprises the steps of:
conducting a manufacturing capability audit; and
determining field performance of the material.